

State of Texas :

SS: Affidavit of Mike Fann

County of _____ :

Mike Fann, being first duly sworn deposes and states as follows:

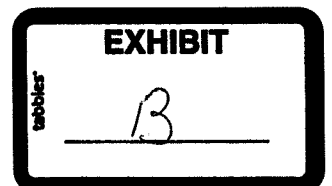
1. I have a masters degree in mechanical engineering with four years of upper level college courses in acoustics. I am over 18 years of age and am competent to give this affidavit. I have personal knowledge of the information contained herein.
2. I performed sound level testing on April 22, 2009 at the request of Norfolk Southern at the Bellevue diesel shop. I recreated an incident involving an unexpected locomotive horn blast that allegedly injured Thomas McCool on April 15, 2009.
3. Based upon my testing and the information provided by Norfolk Southern, Mr. McCool was exposed to a maximum unprotected level of sound at 126 dBA for 2-3 seconds. The hearing protection that he was wearing at the time of the incident reduced the exposure level to 111 dBA.
4. At the time of the incident, OSHA standards permitted 15 minutes of continuous noise exposure at 115 dBA. Mr. McCool's 2-3 second exposure at 111dBA was within the allowable noise exposure limits. As a result, Mr. McCool was not exposed to noise that violated any sound level standards and was not exposed to any noise that had an adverse impact on his hearing.
5. I prepared a report of my testing and it is attached and incorporated in this affidavit.
6. My opinions are given to a reasonable degree of scientific certainty.

FURTHER, affiant sayeth naught.

Mike Fann

Sworn to and subscribed in my presence this _____ day of March 2013.

Notary Public



MIKE FANN & ASSOCIATES

Consultants in Acoustics, Industrial Noise Control and Micro vibrations

April 28, 2009

Tom Dover
Gallagher & Sharp
1501 Euclid Avenue
Cleveland, OH 44115

RE: McCool and DiSalvo's claims of acoustic trauma from one accidental horn blow

Dear Mr. Dover:

I have a Masters Degree in Mechanical Engineering with four years of upper level college education in acoustics. In addition I have 30 years of total experience and 20 years with railroad issues. The opinions expressed in this report are based on sound, scientific methodologies used in the field of acoustics. Moreover, the data I received in the testing performed were obtained with sound, scientific methodologies, using reliable equipment recognized in the field of acoustic science for sound measurements of this type. These opinions are based on my education, skill, knowledge and expertise development during my career as reflected by my resume.

I find no validity to the recent claims by Norfolk Southern employees, McCool and DiSalvo, of acoustic trauma from the NS 8005 accidental horn discharge. I reconstructed the incident on April 22, 2009 in the Bellevue, OH shop. Mr. McCool received a maximum unprotected (without ear plugs) level of 126 dBA for 2-3 seconds, at his location on the catwalk in the wash house. The sketch on the next page shows Mr. McCool's location and Mr. DiSalvo's location in the Diesel Shop on the other side of a demising wall partition. The sound traveled through a hole in the wall to Mr. DiSalvo producing 110 dBA at his location. Both employees reported wearing the mandated hearing protection which has a minimum real ear protection of 15 dBA and a maximum of 25 dBA. As a result, their horn exposure was 111 dBA and 95 dBA, respectively. These levels do not rise to any threshold of concern.

The Noise and Hearing Conservation Manual edited by Ward, Berger, Morrill and Royster, and published by AIHA (page 214) states that "It should be noted that the present OSHA exposure limit has a de facto second critical level for continuous noise: 115 dBA. Although 15 minutes of exposure at 115 dBA is permitted, more than one second at any higher levels is forbidden, even though a 1-second exposure even at 130 dBA would represent a dose considerably less than 1% of the permitted daily dose if the 5-dB-per-halving trading relation were extended to include exposure at that level. Indeed even in the ISO equal energy system 3 seconds of exposure would be permitted at 130 dBA, as this would be the energy equivalent of 90 dBA for 8 hours. This 115 dB ceiling is therefore highly artificial, as no human data even suggest that permanent damage can be caused by 3 seconds or less of 130 dBA."

Karl Kryter and Dixon Ward were instrumental in documenting the human response to loud noises of short duration. They published a foundational report entitled "Hazardous Exposure to Intermittent and Steady- State Noise" in the Journal of the Acoustical Society of America, in 1965.

MIKE FANN & ASSOCIATES

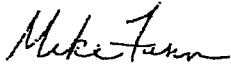
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They routinely experimented on college students by purposely exposing them to loud noises similar to the locomotive horn and documenting any temporary hearing shift and subsequent recovery. They found that without ear plugs the ear exhibited temporary problems with hearing with some possible ringing. However, even the most sensitive individual's when exposed to 130 dBA without ear protection would recover within 16 hours.

The hearing protection used in the Bellevue shop reduces the noise 15-25 dBA. This makes the noise $\frac{1}{4}$ of the loudness. With hearing protection, McCool's and DiSalvo's brief ear exposure reduces well within safe allowances.

There is no possibility that DiSalvo had even temporary ear damage from exposure. The only possibility for McCool would be if he really didn't have his ear plugs in. Even so, the temporary condition would subside the next day.

Sincerely,



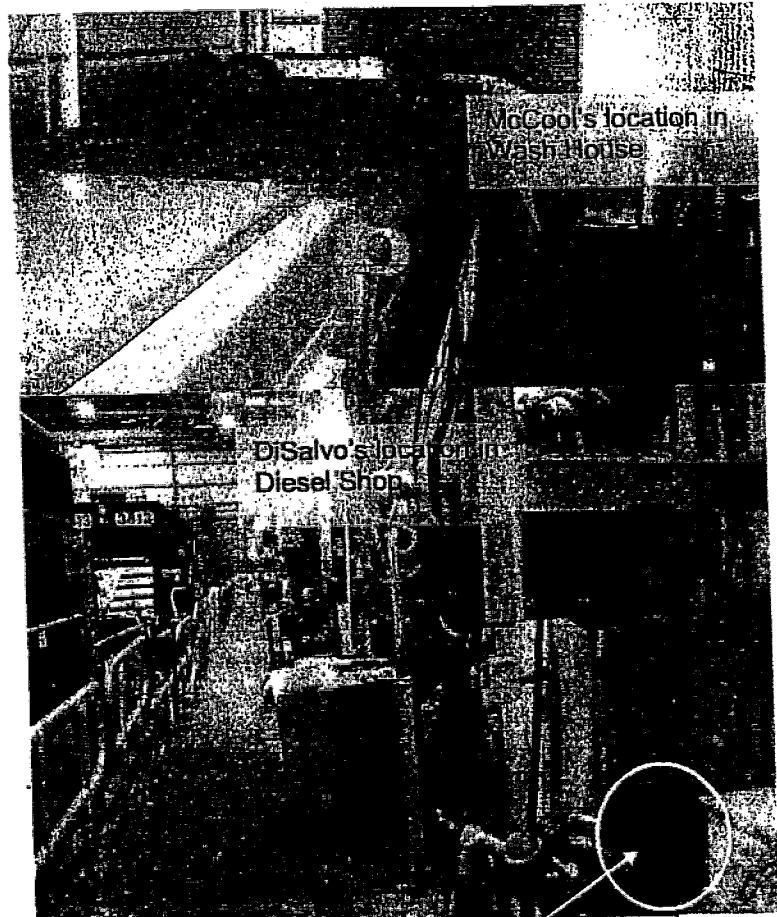
Mike Fann

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Bellevue Shop Noise Exposure Claim Evaluation

Date: April 22, 2009
Loco #: NS 8005
Type: ES44AC
Main Reservoir: 130 psi
Location: Bellevue, OH
Weather: inside
Temperature: inside
Wind: inside
Sound Level Meter: Larson Davis
820
Survey conducted by: Mike Fann



Sound Test #	Noise Level (dBA)	Description
1	114	Field Meter Calibration
2 & 3	125.6 & 122.3	NS 8005 horn level at McCool's location
4 & 5	110.4 & 109.4	NS 8005 horn level at DiSalvo's location

